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<input type="checkbox"/>	L3	L2 and RNA polymerase domain	0
<input type="checkbox"/>	L2	L1 and qde-1	5
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=> s l2 and qde-1
L3 17 L2 AND QDE-1

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L4 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:773397 CAPLUS
DN 139:392719
TI RNA-dependent RNA polymerase in ***gene*** ***silencing***
AU Huang, Luyun; Gledhill, John; Cameron, Craig E.
CS Department of Biochemistry and Molecular Biology, Pennsylvania State
University, University Park, PA, 16802, USA
SO RNAi (2003), 175-203. Editor(s): Hannon, Gregory J. Publisher: Cold

Spring Harbor Laboratory Press, Woodbury, N. Y.

CODEN: 69EOQD; ISBN: 0-87969-641-9

DT Conference; General Review

LA English

AB A review. This paper reviews the RNA-dependent RNA polymerase involved in
homol-dependent ***gene*** ***silencing***. The paper reviews
the discovery and purifcn. of the RNA polymerase from plants to animals.
Gene and amino acid sequences were compared among the RNA polymerase from
various species. The paper also discussed the mechanism that the RNA
polymerase is involved in RNA interference.

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RECORD

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L4 ANSWER 2 OF 9 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC.
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DUPLICATE 1

AN 2003:95584 BIOSIS

DN PREV200300095584

TI Cellular RNA-dependent RNA polymerase involved in posttranscriptional
gene ***silencing*** has two distinct activity modes.

AU Makeyev, Eugene V.; Bamford, Dennis H. [Reprint Author]
CS Department of Biosciences, Institute of Biotechnology, University of
Helsinki, Viikinkaari 5, FIN-00014, P.O. Box 56, Helsinki, Finland
dennis.bamford@helsinki.fi

SO Molecular Cell, (December 2002) Vol. 10, No. 6, pp. 1417-1427. print.
ISSN: 1097-2765 (ISSN print).

DT Article

LA English

ED Entered STN: 12 Feb 2003

Last Updated on STN: 12 Feb 2003

AB Recent genetic data suggest that proteins homologous to a plant
RNA-dependent RNA polymerase (RdRP) play a central role in
posttranscriptional ***gene*** ***silencing*** (PTGS) in many
organisms. We show here that purified recombinant protein ***QDE*** -
1, a genetic component of PTGS ("quelling") in the fungus
Neurospora, possesses RNA polymerase activity in
vitro. The full-length enzyme and its enzymatically active C-terminal
fragment perform two different reactions on single-stranded RNA templates,
synthesizing either extensive RNA chains that form template-length
duplexes or approx-21-mer complementary RNA oligonucleotides scattered
along the entire template. ***QDE*** - ***1*** supports both de
novo and primer-dependent initiation mechanisms. These results suggest
that several distinct activities of cell-encoded RdRPs can be employed for
efficient PTGS in vivo.

L4 ANSWER 3 OF 9 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC.
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DUPLICATE 2

AN 2002:262162 BIOSIS

DN PREV200200262162

TI Involvement of small RNAs and role of the qde genes in the ***gene***
silencing pathway in Neurospora.

AU Catalanotto, Caterina; Azzalin, Gianluca; Macino, Giuseppe; Cogoni, Carlo
[Reprint author]

CS Dipartimento di Biotecnologie Cellulari ed Ematologia, Sezione di Genetica
Molecolare, Universita di Roma La Sapienza, 00161, Roma, Italy
carlo@bcm.med.uniroma1.it

SO Genes and Development, (April 1, 2002) Vol. 16, No. 7, pp. 790-795. print.
CODEN: GEDEEP. ISSN: 0890-9369.

DT Article

LA English

ED Entered STN: 1 May 2002

Last Updated on STN: 1 May 2002

AB Small RNA molecules have been found to be specifically associated with
posttranscriptional ***gene*** ***silencing*** (PTGS) in both
plants and animals. Here, we find that small sense and antisense RNAs are
also involved in PTGS in ***Neurospora*** ***crassa***. The
accumulation of these RNA molecules depends on the presence of functional
qde - ***1*** and qde-3 genes previously shown to be essential
for ***gene*** ***silencing***, but does not depend on a
functional qde-2, indicating that this gene is involved in a downstream
step of the ***gene*** ***silencing*** pathway. Supporting this
idea, a purified QDE2 protein complex was found to contain small RNA
molecules, suggesting that QDE2 could be part of a small RNA-directed
ribonuclease complex involved in sequence-specific mRNA degradation.

L4 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:400627 CAPLUS

DN 137:333558

TI Quelling in ***Neurospora*** ***crassa***

AU Pickford, Annette S.; Catalanotto, Caterina; Cogoni, Carlo; Macino,
Giuseppe

CS Department of Cellular and Hematologic Biotechnology, Universita di Roma
"La Sapienza", Rome, 00161, Italy

SO Advances in Genetics (2002), 46(Homology Effects), 277-303

CODEN: ADGEAV; ISSN: 0065-2660

PB Academic Press

DT Journal; General Review

LA English

AB A review discussing quelling in filamentous fungus ***Neurospora***
crassa, a posttranscriptional mechanism of ***gene***
silencing active during vegetative growth. (c) 2002 Academic

Press.
RE CNT 117 THERE ARE 117 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS ON STN
AN 2000:608891 CAPLUS
DN 133:203848

TI ***Neurospora*** ***crassa*** gene ***qde*** - ***]***
protein, its similarity to RNA-dependent RNA polymerase, involvement in
post-transcriptional ***gene*** ***silencing*** induced by
transgenes, and its DNA and amino acid sequences

IN Macino, Giuseppe; Cogoni, Carlo
PA Università Degli Studi Di Roma "La Sapienza", Italy
SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2000050581 A2 20000831 WO 2000-IT48 20000216

WO 2000050581 A3 20001130

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,
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CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

IT 1306014 B1 20010523 IT 1999-RM117 19990222

EP 1155122 A1 20011121 EP 2000-909618 20000216

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI

PRAI IT 1999-RM117 A 19990222

WO 2000-IT48 W 20000216

AB The invention provides a protein encoded by ***Neurospora***
crassa gene ***qde*** - ***]*** (quelling-deficient 1) that
contains a RNA-dependent RNA polymerase domain (residues 710 to 1282) and
is involved in post-transcriptional ***gene*** ***silencing***
induced by transgenes. The invention also provides the DNA sequence of
the N. crassa gene ***qde*** - ***]***, as well as amino acid
sequence of the gene ***qde*** - ***]*** protein. The invention
further provides expression vectors contg. a promoter and the ***qde***
- ***]*** gene (in a sense or anti-sense orientation), and organisms
(such as prokaryote, plant, fungi or a non-human animal) transformed with
said vectors. Still further, the invention provides a plant or non-human
animal which contains a mutated ***qde*** - ***]*** gene, which
results in reduced or inhibited silencing activity. Finally, the
invention relates the use of gene ***qde*** - ***]*** DNA mols.: (1)
in modulating ***gene*** ***silencing*** in plants, animals and
fungi, and (2) to potentiate the antiviral-response in a plant.

RE CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L4 ANSWER 6 OF 9 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC.
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DUPLICATE 3

AN 2000:314098 BIOSIS

DN PREV200000314098

TI An RNA-dependent RNA polymerase gene in Arabidopsis is required for
posttranscriptional ***gene*** ***silencing*** mediated by a
transgene but not by a virus.

AU Dalmay, Tamas; Hamilton, Andrew; Rudd, Stephen; Angell, Susan; Baulcombe,
David C. [Reprint author]

CS The Sainsbury Laboratory, John Innes Centre, Norwich, NR4 7UH, UK
SO Cell, (May 26, 2000) Vol. 101, No. 5, pp. 543-553. print.

CODEN: CELLB5. ISSN: 0092-8674.

DT Article

LA English

ED Entered STN: 26 Jul 2000

Last Updated on STN: 7 Jan 2002

AB Posttranscriptional ***gene*** ***silencing*** is a defense
mechanism in plants that is similar to quelling in fungi and RNA
interference in animals. Here, we describe four genetic loci that are
required for posttranscriptional ***gene*** ***silencing*** in
Arabidopsis. One of these, SDE1, is a plant homolog of ***QDE*** -
] in ***Neurospora*** ***crassa*** that encodes an
RNA-dependent RNA polymerase. The sde1 mutation was specific for
posttranscriptional ***gene*** ***silencing*** induced by
transgenes rather than by viruses. We propose that the role of SDE1 is to
synthesize a double-stranded RNA initiator of posttranscriptional
gene ***silencing***. According to this idea, when a virus
induces posttranscriptional ***gene*** ***silencing***, the
virus-encoded RNA polymerase would produce the double-stranded RNA and
SDE1 would be redundant.

L4 ANSWER 7 OF 9 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS
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AN 2000429011 EMBASE

TI Arabidopsis SGS2 and SGS3 genes are required for posttranscriptional
gene ***silencing*** and natural virus resistance.

AU Mourrain P.; Beclin C.; Elmayan T.; Feuerbach F.; Godon C.; Morel J.-B.;
Jouette D.; Lacombe A.-M.; Nikic S.; Picault N.; Remoue K.; Sanial M.; Vo
T.-A.; Vaucheret H.

CS C. Beclin, Laboratoire de Biologie Cellulaire, Inst. Natl. de la Recherche

Agron., 78026 Versailles Cedex, France. beclin@versailles.inra.fr

SO Cell, (26 May 2000) 101/5 (533-542).

Refs: 58

ISSN: 0092-8674 CODEN: CELLB5

CY United States

DT Journal; Article

FS 004 Microbiology

029 Clinical Biochemistry

LA English

SL English

AB Posttranscriptional ***gene*** ***silencing*** (PTGS) in plants
results from the degradation of mRNAs and shows phenomenological
similarities with quelling in fungi and RNAi in animals. Here, we report
the isolation of sgs2 and sgs3 Arabidopsis mutants impaired in PTGS. We
establish a mechanistic link between PTGS, quelling, and RNAi since the
Arabidopsis SGS2 protein is similar to an RNA-dependent RNA polymerase
like N. crassa ***QDE*** - ***]***, controlling quelling, and C.
elegans EGO-1, controlling RNAi. In contrast, SGS3 shows no significant
similarity with any known or putative protein, thus defining a specific
step of PTGS in plants. Both sgs2 and sgs3 mutants show enhanced
susceptibility to virus, definitively proving that PTGS is an antiviral
defense mechanism that can also target transgene RNA for degradation.

L4 ANSWER 8 OF 9 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC.
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AN 2000:202594 BIOSIS

DN PREV200000202594

TI EGO-1 is related to RNA-directed RNA polymerase and functions in germ-line
development and RNA interference in C. elegans.

AU Smardon, Anne; Spoerke, Jill M.; Stacey, Steven C.; Klein, Marcia E.;
Mackin, Nancy; Maine, Eleanor M. [Reprint author]

CS Department of Biology, Syracuse University, 108 College Place, Syracuse,
NY, 13244, USA

SO Current Biology, (Feb. 24, 2000) Vol. 10, No. 4, pp. 169-178. print.

CODEN: CUBLE2. ISSN: 0960-9822.

DT Article

LA English

ED Entered STN: 24 May 2000

Last Updated on STN: 5 Jan 2002

AB Background: Cell-fate determination requires that cells choose between
alternative developmental pathways. For example, germ cells in the
nematode worm Caenorhabditis elegans choose between mitotic and meiotic
division, and between oogenesis and spermatogenesis. Germ-line mitosis
depends on a somatic signal that is mediated by a Notch-type signaling
pathway. The ego-1 gene was originally identified on the basis of genetic
interactions with the receptor in this pathway and was also shown to be
required for oogenesis. Here, we provide more insight into the role of
ego-1 in germ-line development. Results: We have determined the ego-1
gene structure and the molecular basis of ego-1 alleles. Putative ego-1
null mutants had multiple, previously unreported defects in germ-line
development. The ego-1 transcript was found predominantly in the germ
line. The predicted EGO-1 protein was found to be related to the tomato
RNA-directed RNA polymerase (RdRP) and to ***Neurospora***
crassa ***QDE*** - ***]***, two proteins implicated in
post-transcriptional ***gene*** ***silencing*** (PTGS). For a
number of germ-line-expressed genes, ego-1 mutants were resistant to a
form of PTGS called RNA interference. Conclusions: The ego-1 gene is the
first example of a gene encoding an RdRP-related protein with an essential
developmental function. The ego-1 gene is also required for a robust
response to RNA interference by certain genes. Hence, a protein required
for germ-line development in C. elegans may be a component of the RNA
interference/PTGS machinery.

L4 ANSWER 9 OF 9 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC.
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DUPLICATE 4

AN 1999:274719 BIOSIS

DN PREV199900274719

TI ***Gene*** ***silencing*** in ***Neurospora*** ***crassa***
requires a protein homologous to RNA-dependent RNA polymerase.

AU Cogoni, Carlo; Macino, Giuseppe [Reprint author]

CS Dipartimento di Biotecnologie Cellulari ed Ematologia, Sezione di Genetica
Molecolare, Università di Roma La Sapienza, Viale Regina Elena 324,
00161, Roma, Italy

SO Nature (London), (May 13, 1999) Vol. 399, No. 6732, pp. 166-169. print.
CODEN: NATUAS. ISSN: 0028-0836.

DT Article

LA English

ED Entered STN: 28 Jul 1999

Last Updated on STN: 28 Jul 1999

AB In plants and fungi, the introduction of transgenes can lead to
post-transcriptional ***gene*** ***silencing***. This phenomenon,
in which expression of the transgene and of endogenous genes containing
sequences homologous to the transgene can be blocked, is involved in virus
resistance and genome maintenance. Transgene-induced ***gene***
silencing has been termed quelling in ***Neurospora***

crassa and co-suppression in plants. Quelling-defective (qde) mutants of N. crassa, in which transgene-induced ***gene*** silencing*** is impaired, have been isolated. Here we report the cloning of ***qde*** - ***I***, the first cellular component of the ***gene*** - ***silencing*** mechanism to be isolated, which defines a new gene family conserved among different species including plants, animals and fungi. The ***qde*** - ***I*** gene product is similar to an RNA-dependent RNA polymerase found in the tomato. The identification of ***qde*** - ***I*** strongly supports models that implicate an RNA-dependent RNA polymerase in the post-transcriptional ***gene*** - ***silencing*** mechanism. The presence of ***qde*** - ***I*** homologues in a variety of species of plants and fungi indicates that a conserved ***gene*** - ***silencing*** mechanism may exist, which could have evolved to preserve genome integrity and to protect the genome against naturally occurring transposons and viruses.

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